

WHAT IS CLAIMED IS:

1. A heat exchanger, comprising:  
at least one plate fin having a first side, a second  
5 side, and at least one opening defined therein;  
at least one fin collar disposed on the plate fin  
around the at least one opening, the fin collar having an  
upstanding wall extending from the plate fin, the wall  
having a plurality of slits defined therein; and,  
10 at least one tube for conveying a pressurized fluid,  
the tube being disposed through the at least one opening  
in the plate fin.
2. The heat exchanger of Claim 1, wherein the at least  
15 one tube has a cross-sectional shape that is round.
3. The heat exchanger of Claim 1, wherein the at least  
one tube has a cross-sectional shape that is circular.
- 20 4. The heat exchanger of Claim 1, wherein the at least  
one tube has a cross-sectional shape that is oval.
5. The heat exchanger of Claim 1, wherein the plurality  
of slits are disposed substantially equidistantly around  
25 a perimeter of the collar.
6. The heat exchanger of Claim 1, wherein the plurality  
of slits are defined by a pair of opposed walls that are  
angled such that the slit is wider at a point distal to  
30 the plate fin than it is at a point proximal to the plate  
fin.

7. The heat exchanger of Claim 1, wherein the plurality of slits have a rectangular shape.

5 8. The heat exchanger of Claim 1, wherein the at least one fin collar is constructed of an aluminum alloy.

9. The heat exchanger of Claim 8, further comprising a cladding layer.

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10. The heat exchanger of Claim 1, wherein the at least one tube is constructed of an aluminum alloy.

11. The heat exchanger of Claim 1, wherein the at least  
15 one plate fin is attached to the at least one tube by brazing.

12. The heat exchanger of Claim 1, wherein the at least one plate fin is attached to the at least one tube by  
20 brazing in a controlled atmosphere brazing oven.

13. The heat exchanger of Claim 1, wherein the at least one tube is constructed of copper.

25 14. The heat exchanger of Claim 1, wherein the at least one plate fin is constructed of copper.

15. The heat exchanger of Claim 1, wherein the fin collar is unclad.

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16. A heat exchanger, comprising:

at least one plate fin having a first side, a second side and at least one opening defined therein;

at least one fin collar disposed on the plate fin around the at least one opening, the fin collar having an upstanding wall extending from the plate fin, the wall having a plurality of slits defined therein; and,

at least one tube for conveying a pressurized fluid, the tube being disposed through the opening in the plate fin and attached to the fin collar by brazing.

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17. The heat exchanger of Claim 16, wherein the at least one tube has a cross-sectional shape that is round.

18. The heat exchanger of Claim 16, wherein the at least one tube has a cross-sectional shape that is circular.

19. The heat exchanger of Claim 16, wherein the at least one tube has a cross-sectional shape that is oval.

20. The heat exchanger of Claim 16, wherein the plurality of slits are disposed substantially equidistantly around a perimeter of the collar.

21. The heat exchanger of Claim 16, wherein the plurality of slits are defined by a pair of opposed walls that are angled such that the slit is wider at a point distal to the plate fin than it is at a point proximal to the plate fin.

22. The heat exchanger of Claim 16, wherein the plurality of slits have a rectangular shape.

23. The heat exchanger of Claim 16, wherein the at least one fin collar is constructed of an aluminum alloy.

24. The heat exchanger of Claim 23, further comprising a  
5 cladding layer.

25. The heat exchanger of Claim 16, wherein the at least one tube is constructed of an aluminum alloy.

10 26. The heat exchanger of Claim 16, wherein the at least one fin collar is attached to the at least one tube by brazing.

15 27. The heat exchanger of Claim 16, wherein the at least one plate fin is attached to the at least one tube by brazing in a controlled atmosphere brazing oven.

28. The heat exchanger of Claim 16, wherein the at least one tube is constructed of copper.

20 29. The heat exchanger of Claim 16, wherein the at least one plate fin is constructed of copper.

25 30. The heat exchanger of Claim 16, wherein the fin collar is unclad.

31. A method of forming a plate fin heat exchanger, comprising:

30 providing at least one plate fin having a first side, a second side, and at least one opening; at least one fin collar disposed on the plate fin around the at

least one opening, the fin collar having an upstanding wall extending from the plate fin, the wall having a plurality of slits defined therein; and at least one tube for conveying a pressurized fluid, the tube being  
5 disposed through the at least one opening and attached to the fin collar by brazing;

providing a cladding material for brazing the plate fin-to-tube joint; and,

brazing the plate fin-to-tube joint in a controlled  
10 atmosphere brazing oven.